ABSTRACT

MACHINING SIMULATION METHOD AND APPARATUS

5   A machining simulation method using a plurality of equally sized regular volumes such as cubes to represent the surface of a raw stock object at a relatively low resolution.   Each regular volume contains a reference to that portion of the original stock surface falling within

10 that regular volume. The regular volumes affected by the swept volume of each tool movement are readily determined, and a pointer to that tool movement is added to each affected regular volume.   The finished data may be expanded in detail at any portion of interest to create fully

15 realised surface geometry with full boundary information by combining the original stock surface and the relevant surfaces of each tool movement. The original stock object may be displayed using the low-resolution regular volumes from any convenient view point, and may be animated in real

20 time to show the effects of each tool movement.

[Figure 1]

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